

Claims (for U.S. application)

1. A light source unit comprising:
a printed circuit board;
a straight groove formed in the printed circuit board by a groove forming
5 technique;
a plurality of light-emitting diode (LED) elements arranged in the form of
an array and mounted on a bottom face of the groove;
wherein a lateral face of the groove acts as a reflecting face for reflecting a
beam from said each light-emitting diode element toward an object to be
10 illuminated.
2. The light source unit of claim 1, wherein said lateral face of the
groove is formed as an inclined face flared open from the bottom face.
3. The light source unit of claim 1, wherein said lateral face of the
groove is formed as a convex curved face flared open from the bottom face.
- 15 4. The light source unit of claim 1, wherein a wiring land for the LED
elements formed on the surface of the printed circuit board and the LED elements
are connected to each other via bonding wires.
5. The light source unit of claim 1, wherein the light source unit is for
use in a color film scanner and the unit includes a plurality of the LED arrays for
20 red, blue and green colors.
6. A light source unit comprising:
a printed circuit board including;
a first printed circuit board, and

a second printed circuit board superposed on a top face of the first printed circuit board;

a straight through groove formed in the second printed circuit board by a groove forming technique;

5 a mounting face formed in the first printed circuit board to be exposed through the through groove;

a plurality of light emitting diode (LED) elements arranged in the form of an array and mounted on the mounting face;

10 wherein a lateral face of the through groove acts as a reflecting face for reflecting a beam from said each light-emitting diode element toward an object to be illuminated.

7. The light source unit of claim 6, wherein said lateral face of the through groove is formed as an inclined face flared open from the bottom face.

8. The light source unit of claim 6, wherein said lateral face of the through groove is formed as a convex curved face flared open from the bottom face.

20 9. The light source unit of claim 6, wherein the light source unit is for use in a color film scanner and the unit includes a plurality of the LED arrays for red, blue and green colors.

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